

August, 1900, and special forecasts or warnings other than those relating to the heat were not issued.

AREAS OF HIGH AND LOW PRESSURE.

During the month there were six highs and eight lows which could be charted. (See Charts I and II.) A brief description of their more prominent characteristics is given herewith:

Highs.—All of the highs originated north of the forty-fifth parallel, and three of them, Nos. I, II, and IV, as far east as the eighty-fifth meridian. Nos. I, III, and VI disappeared off the middle Atlantic coast; Nos. II and IV beyond the St. Lawrence Valley, and No. V north of Lake Superior. No. II moved very slowly after reaching the sixtieth meridian, consuming four days in covering a distance of a few hundred miles.

Movements of centers of areas of high and low pressure.

Number.	First observed.			Last observed.			Path.		Average velocities.	
	Date.	Lat. N.	Long. W.	Date.	Lat. N.	Long. W.	Length.	Duration.	Daily.	Hourly.
High areas.							<i>Miles.</i>	<i>Days.</i>	<i>Miles.</i>	<i>Miles.</i>
I.....	2 p.m.	48	87	4 p.m.	39	75	1,100	2.0	550	22.9
II.....	11 a.m.	48	88	17 a.m.	48	54	1,425	2.5	570	23.7
III.....	15 a.m.	50	108	18 a.m.	48	75	1,780	3.0	593	24.7
IV.....	18 a.m.	48	86	20 a.m.	49	69	900	2.0	450	18.8
V.....	19 a.m.	51	114	22 a.m.	48	85	1,400	2.5	560	23.3
VI.....	26 a.m.	51	120	2 a.m.*	41	70	8,110	7.0	444	18.5
Sums.....							9,715	19.0	3,167	131.9
Mean of 6 paths.....							1,619		528	22.0
Mean of 19 days.....									511	21.3
Low areas.										
I.....	8 a.m.	46	78	9 p.m.	46	60	900	1.5	600	25.0
II.....	8 p.m.	51	120	11 p.m.	46	60	2,925	3.0	975	40.6
III.....	11 p.m.	54	114	14 a.m.	48	85	1,405	2.5	532	23.4
IV.....	11 p.m.	38	100	14 a.m.	41	74	1,575	2.5	630	26.2
V.....	18 a.m.	38	100	16 a.m.	48	68	2,175	3.0	725	30.2
VI.....	19 p.m.	43	100	21 p.m.	35	75	1,650	2.0	825	34.4
VII.....	20 a.m.	45	64	22 a.m.	48	54	600	2.0	800	12.5
VIII.....	20 p.m.	51	114	25 a.m.	48	89	1,850	4.5	411	17.1
	23 a.m.	51	114				1,150	2.0	575	24.0
Sums.....							14,230	23.0	5,603	233.4
Mean of 9 paths.....							1,581		623	26.0
Mean of 23 days.....									619	25.8

*September.

After the morning of the 5th the high charted as No. I settled down over the Southern States, and also overspread the Ohio Valley. This high, in combination with the northwestern low, caused an extensive warm wave to set in on the 6th over the entire country east of the Rocky Mountains, and it continued almost without interruption during the remainder of the month over the major portion of this great territory. Over many districts this warm wave had never

been equaled for duration and intensity. The high on the Pacific coast persisted until the evening of the 9th with varying intensity, and frequently thereafter, particularly on the north coast.

Lows.—The lows also kept well to the northward in their passage over the country. But one, No. IV, originated south of the fortieth parallel, and but one, No. VI, moved south of that line; both originated in the middle slope. Nos. II, III, V, and VIII originated in the British Northwest Territory west of the one-hundred and tenth meridian. No. II moved almost due eastward, passing into the Atlantic Ocean by way of Cape Breton Island. No. V pursued a very similar course, although somewhat more to the northward. No. III was an offshoot from the depression which persisted during almost the entire month over the Northwest; it moved eastward and was lost to the northeastward of Lake Superior. No. VI was also an offshoot from this depression. No. VIII, in reality, consisted of two separate depressions which originated near to each other in western Alberta, and, after pursuing different paths, converged into one northwest of Lake Superior, and then moved off to the northeastward. No. VII came up from the south Atlantic Ocean. Its first land appearance was on the Nova Scotia coast, whence it moved northeastward, passing out into the ocean by way of St. Johns, N. F.—*H. C. Frankenfield, Forecast Official.*

RIVERS AND FLOODS.

With the advent of the low water season the rivers, with the exception of the upper Mississippi, fell generally throughout the whole country. When compared with the month of August, 1899, it is noticed that this year's stages of the Mississippi River proper were a foot or more higher than last year's, as were also those of the tributary streams to the eastward. The western tributaries were, as a rule, somewhat higher in 1899. The rivers of the Atlantic and Gulf systems were also higher in 1900 than in 1899, while over the Pacific system the reverse was true, but not to a marked degree.

No high stages occurred.

During the month the new Brazos River service in Texas was commenced with two stations in operation, viz, Kopperl and Waco, Tex. Other stations will be added in a short time, and it is believed that in time of future floods this service will, by the issue of timely warnings, prove the means of preserving many lives and much valuable property. The headquarters of this service are at Galveston, Tex.

The highest and lowest water, mean stage, and monthly range at 129 river stations are given in Table XI. Hydrographs for typical points on seven principal rivers are shown on Chart V. The stations selected for charting are: Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.—*H. C. Frankenfield, Forecast Official.*

CLIMATE AND CROP SERVICE.

By JAMES BERRY, Chief of Climate and Crop Service Division.

The following extracts relating to the general weather conditions in the several States and Territories are taken from the monthly reports of the respective sections of the Climate and Crop Service. The name of the section director is given after each summary.

Rainfall is expressed in inches and temperature in degrees Fahrenheit.

Alabama.—The mean temperature was 81.6°, or 2.2° above normal; the highest was 105°, at Goodwater on the 11th, and the lowest, 62°, at Riverton and Valleyhead on the 1st, at Newton on the 8th, and at Pineapple on the 26th. The average precipitation was 2.89, or 1.74 below normal; the greatest monthly amount, 9.85, occurred at Citronelle, and the least, 0.50, at Pineapple.—*F. P. Chaffee.*

Arizona.—The mean temperature was 80.3°, or 3.7° below normal; the highest was 119°, at Parker on the 1st, and the lowest, 30°, at Strawberry on the 30th. The average precipitation was 1.02, or 1.10 below

normal; the greatest monthly amount, 3.99, occurred at Mount Huachuca, while none fell at a number of stations.—*W. G. Burns.*

Arkansas.—The mean temperature was 81.1°, or 2.3° above normal; the highest was 108°, at Jonesboro on the 21st, and the lowest, 57°, at Pond on the 2d. The average precipitation was 2.95, or 0.15 below normal; the greatest monthly amount, 8.08, occurred at Amity, and the least, 0.06, at Arkansas City.—*E. B. Richards.*

California.—The mean temperature was 71.0°, or 3.8° below normal; the highest was 120°, at Volcano Springs on the 2d, and the lowest, 17°, at Bodie on the 20th. The average precipitation was 0.02, or 0.04 below normal; the greatest monthly amount, 1.35, occurred at Yreka, while none fell at about 150 stations.—*Alexander G. McAdie.*

Colorado.—The mean temperature was 67.2°, or about normal; the highest was 109°, at Delta on the 27th, and the lowest, 20°, at Wagon-wheel Gap on the 25th. The average precipitation was 0.65, or 1.00 below normal; the greatest monthly amount, 4.59, occurred at Crook, and the least, trace, at several stations.—*F. H. Brandenburg.*

Florida.—The mean temperature was 82.4°, or 0.9° above normal; the highest was 104°, at McClenny on the 20th and at McAlpin on the 23d, and the lowest, 64°, at St. Francis on the 7th. The average precipitation was 4.20, or 2.90 below normal; the greatest monthly amount, 16.05, occurred at Fort Meade, and the least, 0.28, at Merritts Island.—*A. J. Mitchell.*

Georgia.—The mean temperature was 82.3°, or 3.6° above normal, and is the highest mean for any August in the past nine years; the highest was 107°, at Waycross on the 21st and 22d and at Point Peter on the 23d, and the lowest, 56°, at Dahlonega on the 26th. The average precipitation was 2.55, or 3.10 below normal; the greatest monthly amount, 7.37, occurred at Jesup, and the least, 0.66, at Lost Mountain.—*J. B. Marbury.*

Idaho.—The mean temperature was 63.1°, or 2.3° below normal; the highest was 105°, at Hagerman on the 1st, and the lowest, 25°, at Chesterfield on the 15th. The average precipitation was 0.63, or 0.03 above normal; the greatest monthly amount, 3.22, occurred at Murray, and the least, 0.01, at Downey.—*S. M. Blandford.*

Illinois.—The mean temperature was 79.8°, or 5.2° above normal; the highest was 111°, at St. John on the 21st, and the lowest, 54°, at La Grange on the 1st and at Lanark on the 30th. The month has been remarkable both for its high average temperature and for the unbroken period of warm weather. The average precipitation was 4.06, or 1.14 above normal; the greatest monthly amount, 11.17, occurred at Sycamore, and the least, 0.27, at Cairo.—*M. E. Blystone.*

Indiana.—The mean temperature was 78.7°, or 6.0° above normal; the highest was 102°, at Crawfordsville on the 18th, at Washington on the 19th, and at Boonville on the 21st, and the lowest, 50°, at La Porte on the 17th. The month was the warmest August on record. The average precipitation was 3.41, or 0.38 above normal; the greatest monthly amount, 8.36, occurred at Anderson, and the least, 0.95, at Evansville.—*C. F. R. Wappenhans.*

Iowa.—The mean temperature was 77.4°, or 6.3° above normal, and is the highest mean for August on record; the highest was 103°, at Wapello on the 3d and 5th, and the lowest, 41°, at Sheldon on the 28th. The average precipitation was 4.65, or 1.58 above normal; the greatest monthly amount, 10.43, occurred at Scranton, and the least, 1.26, at West Union.—*J. R. Sage, Director; G. M. Chappel, Assistant.*

Kansas.—The mean temperature was 81.0°, or 4.8° above normal, and is the warmest August on record; the highest was 110°, at Phillipsburg and Eureka Ranch on the 21st, and the lowest, 47°, at Coolidge on the 24th. The average precipitation was 2.25, or 0.71 below normal; the greatest monthly amount, 9.05, occurred at Fanning, and the least, trace, at Ullyses.—*T. B. Jennings.*

Kentucky.—The mean temperature was 80.4°, or 3.9° above normal; the records of the Louisville office, covering twenty-nine years, show that the month was the hottest ever experienced since the establishment of the Weather Bureau; the highest was 104°, at Paducah on the 21st, and the lowest, 52°, at Vanceburg on the 2d. The average precipitation was 2.74, or 0.39 below normal; the greatest monthly amount, 6.81, occurred at Pikeville, and the least, 0.05, at Princeton.—*H. B. Hersey.*

Louisiana.—The mean temperature was 81.4°, or 0.4° above normal; the highest was 100°, at several stations on different dates, and the lowest, 60°, at Farmerville on the 3d and at Minden on the 28th. The average precipitation was 4.59, or 0.68 below normal; the greatest monthly amount, 12.65, occurred at New Iberia, and the least, 1.06, at Minden.—*W. T. Blythe.*

Maryland and Delaware.—The mean temperature was 78.0°, or 4.5° above normal; it was the warmest August in Baltimore since the establishment of the Weather Bureau, thirty years ago; the highest was 104°, at Millsboro, Del., on the 13th, and the lowest, 41°, at Deep-park, Md., on the 2d. The average precipitation was 3.04, or 0.41 below normal; the greatest monthly amount, 6.77, occurred at Solomons, Md., and the least, 0.85, at Laurel, Md.—*Oliver L. Fassig.*

Michigan.—The mean temperature was 72.4°, or 5.9° above normal; it was the warmest August on record; the highest was 100°, at Owosso on the 4th and at Harbor Beach on the 5th, and the lowest, 32°, at Humboldt on the 30th. The average precipitation was 3.81, or 1.39

above normal; the greatest monthly amount, 8.31, occurred at South Haven, and the least, 1.10, at Northport.—*C. R. Schneider.*

Minnesota.—The mean temperature was 74.3°, or 6.3° above normal; the highest was 103°, at St. Cloud on the 3d, and the lowest, 30°, at New Folden on the 28th. The average precipitation was 6.44, or 3.02 above normal; the greatest monthly amount, 16.52, occurred at Alexandria, and the least, 1.63, at St. Charles.—*T. S. Outram.*

Mississippi.—The mean temperature was 81.8°, or 1.5° above normal; the highest was 103°, at Agricultural College on the 2d, and the lowest, 60°, at Fayette on the 31st. The average precipitation was 2.17, or 2.45 below normal; the greatest monthly amount, 8.07, occurred at Pearl River, and the least, 0.12, at Vicksburg.—*W. S. Belden.*

Missouri.—The mean temperature was 80.3°, or 4.7° above normal, and is the highest August mean recorded during the past 19 years; the highest was 105°, at Appleton City, Edwards, Cook Station, and Sikeston on the 21st, and the lowest, 52°, at Liberty and Pickering on the 26th. The average precipitation was 3.52, or 0.38 above normal; the greatest monthly amount, 8.37, occurred at Rockport, and the least, 0.34, at Sikeston.—*A. E. Hackett.*

Montana.—The mean temperature was 63.2°, or 1.8° below normal; the highest was 111°, at Glendive on the 1st, and the lowest, 15°, at Dupuyer on the 25th. The average precipitation was 1.58, or 0.88 above normal; the greatest monthly amount, 4.77, occurred at Wibaux, while none fell at Red Lodge.—*E. J. Glass.*

Nebraska.—The mean temperature was 77.2°, or 4.3° above normal; the highest was 109°, at Beaver on the 17th, and the lowest, 38°, at Camp Clarke on the 25th. The average precipitation was 3.40, or 0.83 above normal; the greatest monthly amount, 14.73, occurred at Nemaha, and the least, 0.23, at Seneca.—*G. A. Loveland.*

Nevada.—The mean temperature was 66.6°, or 5.4° below normal; the highest was 110°, at Las Vegas on the 4th, and the lowest, 30°, at Empire Ranch on the 18th. The average precipitation was 0.04, or 0.27 below normal; the greatest monthly amount, 0.25, occurred at Palmetto, while none fell at several stations.—*J. H. Smith.*

New England.—The mean temperature was 69.1°, or 2.0° above normal; the highest was 101°, at Waterbury, Conn., on the 11th, and the lowest, 34°, at Berlin Mills, N. H., on the 4th. The average precipitation was 2.78, or 1.42 below normal; the greatest monthly amount, 5.43, occurred at Manchester, Vt., and the least, 0.86, at Colchester, Conn.—*J. W. Smith.*

New Jersey.—The mean temperature was 76.3°, or 3.8° above normal; the highest was 104°, at Salem on the 11th and at Vineland on the 12th, and the lowest, 41°, at Charlotteburg on the 4th. The average precipitation was 2.68, or 1.53 below normal; the greatest monthly amount, 4.56, occurred at Englewood, and the least, 0.70, at Atlantic City.—*E. W. McGann.*

New Mexico.—The mean temperature was 71.6°, or about normal; the highest was 102°, at Los Lunas on the 6th, at Lyons Ranch on the 13th, and at Mesilla Park on the 14th, and the lowest, 30°, at Winsors on the 13th and 27th. The average precipitation was 1.39, or 0.59 below normal; the greatest monthly amount, 5.35, occurred at Springer, and the least, 0.03, at Hillsboro.—*R. M. Hardinge.*

New York.—The mean temperature was 71.4°, or 4.8° above normal; the highest was 103°, at Catskill on the 11th, and the lowest, 33°, at Bolivar on the 2d. The average precipitation was 3.28, or 0.97 below normal; the greatest monthly amount, 7.47, occurred at Gabriels, and the least, 0.67, at Binghamton.—*R. G. Allen.*

North Carolina.—The mean temperature was 80.2°, or 4.2° above normal; the highest was 106°, at Southern Pines on the 10th, and the lowest, 48°, at Linville on the 4th. The average precipitation was 3.00, or 2.80 below normal; the greatest monthly amount, 7.26, occurred at Sloan, and the least, 0.52, at Biltmore.—*C. F. von Herrmann.*

North Dakota.—The mean temperature was 70.4°, or about 5.0° above normal; the highest was 114°, at Glenullin and Medora on the 1st, and the lowest, 33°, at McKinney and Towner on the 28th. The average precipitation was 5.06, or about 3.50 above normal; and is the greatest rainfall for any August on record. The greatest monthly amount, 9.48, occurred at Forman, and the least, 2.17, at Steele.—*B. H. Bronson.*

Ohio.—The mean temperature was 76.3°, or 5.0° above normal, and is the highest August mean on record; the highest was 103°, at Hedges on the 6th and at Thurman on the 10th, and the lowest, 40°, at Vermillion on the 4th. The average precipitation was 3.68, or 0.77 above normal; the greatest monthly amount, 8.71, occurred at Warsaw, and the least, 1.15, at Orangeville.—*J. Warren Smith.*

Oklahoma and Indian Territories.—The mean temperature was 82.7°, or 1.8° above normal; the highest was 109°, at Prudence on the 27th, and the lowest, 55°, at Bengal on the 2d. The average precipitation was 1.75, or 1.16 below normal; the greatest monthly amount, 5.70, occurred at Sac and Fox Agency; and the least, 0.33, at Jenkins.—*C. M. Strong.*

Oregon.—The mean temperature was 62.8°, or 3.1° below normal; the highest was 99°, at Arlington on the 2d, and the lowest, 27°, at Silverlake on the 9th. The average precipitation was 0.64, or about normal; the greatest monthly amount, 2.96, occurred at Nehalem, while none fell at Comstock and Merlin.—*E. A. Bauls.*

Pennsylvania.—The mean temperature was 75.0°, or 5.1° above normal; the highest was 103°, at Athens on the 10th and at Lebanon on the 11th, and the lowest, 38°, at Lawrenceville on the 1st and at Du-

shore and Smethport on the 2d. The average precipitation was 3.33, or 0.64 below normal; the greatest monthly amount, 5.78, occurred at West Chester, and the least, 0.84, at Pittsburg.—*L. M. Dey.*

South Carolina.—The mean temperature was 83.0°, or 4.4° above normal; the highest was 106°, at Longshore on the 8th and at Columbia on the 20th, and the lowest, 60°, at Holland on the 25th. The average precipitation was 2.13, or 4.18 below normal; the greatest monthly amount, 5.55, occurred at Yemassee, and the least, 0.27, at Cheraw. The month of August was noteworthy in respect both to temperature and precipitation, having been the hottest August on record as well as the driest.—*J. W. Bauer.*

South Dakota.—The mean temperature was 75.5°, or about 5.0° above normal; the highest was 115°, at Cherry Creek on the 1st, and the lowest, 40°, at Ashcroft on the 26th. The average precipitation was 4.26, or 2.05 above normal; the greatest monthly amount, 10.35, occurred at Clark, and the least, 0.90, at Interior.—*S. W. Glenn.*

Tennessee.—The mean temperature was 79.7°, or 3.2° above normal; the highest was 104°, at Tracy City on the 11th, and the lowest, 51°, at Erasmus on the 1st. August was one of the hottest months ever experienced in Tennessee. For persistent, abnormally high temperature the month has not been surpassed since records began eighteen years ago. The average precipitation was 2.00, or 1.23 below normal; the greatest monthly amount, 4.70, occurred at Silverlake, and the least, 0.40, at Springfield.—*H. C. Bates.*

Texas.—The mean temperature, determined by comparison of 42 stations distributed throughout the State, was 0.8° below the normal. Nearly normal conditions prevailed, except over east Texas, the east portion of north Texas, and the central and east portions of the coast districts, where there was a general deficiency, ranging from 1.0° to 4.9°, with the greatest in the vicinity of Corpus Christi. The highest was 106°, at Colorado City on the 24th and 25th, and the lowest, 54°, at Alpine on the 1st. The average precipitation, determined by comparison of 52 stations distributed throughout the State, was 0.81 above normal; there was a general deficiency ranging from 1.00 to 3.03 over north, central, and west Texas and the extreme west portion of the coast districts, while there was a general excess elsewhere, with the greatest over the southeastern portion of the State; the greatest monthly

amount, 12.63, occurred at Brazoria, while none fell at Fort Ringgold.—*I. M. Cline.*

Utah.—The mean temperature was 68.5°, or 1.9° below normal; the highest was 109°, at Hite on the 2d, and the lowest, 26°, at Henefer on the 22d and at Loa on the 31st. The average precipitation was 0.34, or 0.31 below normal; the greatest monthly amount, 1.11, occurred at Wellington, while none fell at Cisco and Kanab.—*L. H. Murdoch.*

Virginia.—The mean temperature was 79.4°, or 4.5° above normal, and was the hottest month on record; the highest was 107°, at Columbia on the 12th, and the lowest, 47°, at Burkes Garden on the 2d and 5th. The average precipitation was 2.12, or 1.69 below normal; the greatest monthly amount, 5.23, occurred at Sunbeam, and the least, 0.13, at Danville.—*E. A. Evans.*

Washington.—The mean temperature was 62.0°, or 3.3° below normal; the highest was 103°, at Hooper on the 14th, and the lowest, 28°, at Republic on the 26th. The average precipitation was 0.94, or 0.20 above normal; the greatest monthly amount, 4.05, occurred at Clearwater, and the least, trace, at Bridgeport.—*G. N. Salisbury.*

West Virginia.—The mean temperature was 76.0°, or 3.1° above normal; the highest was 100°, at several stations on different dates, and the lowest, 45°, at Cairo on the 1st. The average precipitation was 3.15, or 0.40 below normal; the greatest monthly amount, 7.20, occurred at Terra Alta, and the least, 1.03, at Burlington.—*E. C. Vose.*

Wisconsin.—The mean temperature was 74.4°, or 5.7° above normal; the month was without exception the warmest August on record; at Milwaukee the mean was 3° higher than that of any previous August for the past thirty years, and at St. Paul it was 4° higher than any previous record for the same length of time; the highest was 103°, at West Bend on the 6th, and the lowest, 37°, at Florence on the 3d. The average precipitation was 4.33, or 1.23 above normal; the greatest monthly amount, 9.43, occurred at Grantsburg, and the least, 1.32, at Stevens Point.—*W. M. Wilson.*

Wyoming.—The mean temperature was 65.6°, or about normal; the highest was 108°, at Bittercreek on the 19th, and the lowest, 23°, at Daniel on the 17th. The average precipitation was 0.37, or about 0.40 below normal; the greatest monthly amount, 1.15, occurred at Centennial, while none fell at Hyattville.—*W. S. Palmer.*

SPECIAL CONTRIBUTIONS.

DEATH OF MR. T. J. FLYNN.

It is with much regret that we have to announce the death of Mr. T. J. Flynn of the Weather Bureau, who died August 4, 1900, after an illness which lasted several weeks. Mr. Flynn was born December 12, 1842, in Ireland; he served valiantly in the civil war and was a respected member of the Grand Army of the Republic. He connected himself with the weather service of the United States Signal Office in October, 1883, as a lithographer, and served faithfully until death ended a useful career. Mr. Flynn was energetic and always at his post, courteous and ever ready to assist in an emergency.

The Weather Bureau loses a good and conscientious employee.—*L. W.*

NILE FLOODS AND MONSOON RAINS.

Editorial in Nature, August 23, 1900, Vol. LXII, p. 391.

The practice or science of weather forecasting will evidently proceed on two very different lines, according to the relative importance of local or seasonal changes in the general meteorological conditions, and whether the prediction has reference to a long or short period. The machinery employed, in cases where the forecast aims at great minuteness over a small area, consists mainly of the synoptical chart, based on information supplied by rapid telegraphic communication, and in the hands of experts this means probably proves sufficient, and furnishes a fair percentage of accurate predictions. But in the more difficult, as certainly in the more important, problem of predicting the weather some time in advance and over a considerable area, a problem which regularly recurs in the monsoon forecast for India, one must evidently depend upon the more general physical conditions that are produced by the motions of the earth and the distribution of land and water on its surface. These causes, it is true, are always operative, and to a certain extent meteorological phenomena, broadly

considered, must be periodic in their main features. The causes of deviation from periodicity, and the extent of the area affected by such abnormal conditions, are problems which the professional meteorologist has to encounter, and it is to be feared with insufficient means. But it seems not unlikely that, in proportion as the problem becomes more general, by bringing wider areas within the scope of the discussion, the prospects of greater success will become more assured; and it can not but be considered a most significant feature that indications are not wanting that in the two considerable areas, India and Egypt, the respective climates betray peculiarities which may either react upon each other, or the origin of which must be sought in a common source.

From two independent investigations come attempts to trace a connection between the amount of the Nile floods and the abundance or deficiency of the southwest monsoon rainfall in India. Mr. Willcocks¹ broached this subject in a paper read before the Meteorological Congress at the World's Expo-

¹ The above reference to the paper by Mr. W. Willcocks, Civil Engineer in charge of works on the Nile, written in 1893, should perhaps be supplemented by the statement that the short reference by him to the fact "that famine years in India are generally years of low flood in Egypt" is apparently but a repetition of a generalization that we owe, primarily to Mr. Morgan Brierly of Port Said, who in Nature, October, 1881, XXIV, p. 532, published a table showing the rainfall at Bombay, the height of the Nile, and also Wolf's sunspot numbers for the years 1849-1880. He says: "The floods of the Nile are mainly caused by the heavy rains which descend upon the high table-lands of Abyssinia. * * * The great southwest monsoon which sweeps over the Indian Ocean in the summer months produces a like effect in both cases." Subsequently the Indian meteorologists have been able to show that when the great southeast trade of the southern Indian Ocean crosses the equator and becomes the southwest monsoon of India, it impinges upon the high lands of Africa and produces in that region a rain that constitutes a very important portion of the annual flood in the Nile. According as the trade is deflected to the east or to the west and according as it is stronger or feebler, there are resulting variations in the African and Indian rainfall, so that there is some connection between the floods of the Nile and the famines of India.—Ed.